

REMARKS

Reconsideration of the above-mentioned application is respectfully requested. The specification has been amended to add the number of the patent which has issued on the parent application. A terminal disclaimer was submitted with the preliminary amendment to obviate any double patenting rejection mentioned in the Examiner's return telephone call message of August 7, 2006. Claims 1-23 are presently in this application. The Office Action suggested that claim 8 be amended to replace the word "wavefront" with "waveform." However, the word wavefront properly describes what the diffractive optical element controls. To change the waveform implies a change in wavelength which is not the case. The specification, on page 6, lines 22-24, points out that it is the wavefront which is controlled.

The Office Action rejected claims 1-6 and 10 as being unpatentable over the primary reference, i.e., Minoura et al (US 4,842,396) in view of Swanson et al (US 5,889,567) with the remaining claims being rejected as unpatentable over such references in view of Russell (US 5,926,411), Waldern et al (US2004/0108971A1), Herbert (US 6,008,839) and Popovich et al (US 6,115,152).

As the undersigned mentioned in the message left on the Examiner's voice mail on August 7, 2006, all of the above references, with the exception of Waldern et al and Herbert, were cited, applied and distinguished during the prosecution of the parent application serial no. 09/703,916 which has issued as US Patent No. 6,657,605 B1 ("605 patent"). The Notice of Allowability in the parent application, dated April 11, 2003, and the accompanying remarks noted that the following language served to patentably distinguish the claimed subject matter over the cited references.

“However, References cited of Minoura et al (4,842,152) Swanson et al. (5,889,567), Russell (5,926,411) and Popovich et al. (6,115,152) fails to teach **a holographic optical element mounted on the housing in front of the pixel, the holographic optical element being arranged to receive the light emitted by the pixels and disperses the light in a substantially elliptical pattern directly to an observer(s) without using any light emitted modulating guide such that the dispersed light is centered along the Z axis and the pattern is greater along the X axis than along the Y axis.**”

In rejecting the claims in this application it is believed that the Examiner did not address the above limitations which distinguished the claims in the parent application over the prior art relied on in the present Office Action. The newly cited references to Waldern et al and Herbert do not supply the elements missing in Minoura et al etc.

The claims in the present application contain the same distinguishing limitations except that the term “diffractive optical element” has been substituted for “holographic optical element.” As pointed out in the specification and in the preliminary amendment holograms are a subset of the diffractive optics family. It was acknowledged during the prosecution of the parent application that the primary reference to Minoura et al discloses the use of a holographic optical element “. . . to improve the signal to noise ratio by increasing the separation angle between modulated and non-modulated light . . . I [Dr. Deckert] could find nothing in the Minoura patent that supports the Examiner’s statement that the HOE disperses lights so that the resulting pattern is greater along the x axis than along the y axis.” (Deckert Decl. 12/5/02, ¶11; bracketed material added)

The references relate to entirely different technology as was noted in Dr. Deckert's declaration submitted during the prosecution of the parent application, i.e., "Thus, it may be also said that in our invention the source of image light at the pixel level that reaches the observer is also the source of the observable image information whereas in Minoura, Swanson, and Popovich et al, the illumination source provides no observable image information." (Deckert Decl. 12/5/02, ¶5)

The prior art fails to teach a diffractive optical element mounted in front of the pixels of light, making up the video image, to receive the light and disperse it in a substantially elliptical pattern directly to an observer without using any light modulating guide such that the dispersed light is centered along the Z axis and the pattern is greater along the X axis than the Y axis.

Claims 1-7, 9 and 12 which were rejected as unpatentable over Minoura et al, Swanson et al and Russell are patentable over such references and are now in condition for allowance.

Claims 8 and 13-16 were rejected as unpatentable over Minoura et al, Swanson et al and Waldern et al on the grounds that Waldern et al teaches a head mounted optical display utilizing diffractive optical elements such as holographic, kinoform etc. Not only is the head mounted display of Waldern et al entirely different in construction and operation from applicants' video display, this reference adds nothing to the teachings of Minoura et al and Swanson et al with respect to the claimed invention. Claims 8 and 13-16 are patentable over the references taken in any combination.

Claim 11 was rejected as unpatentable over Minoura et al and Swanson et al in view of Herbert on the grounds that Herbert teaches the use of a diffractive optical element as a homogenizer in a head mounted display. Again, Herbert adds nothing to the teachings of the primary reference with respect to the missing elements discussed above. Claim 11 is patentable.

Claims 17-23 were rejected as unpatentable over Popovich et al in view of Russell. These claims are identical to claims 11-17 of the '916 application except that the term "holographic element" has been replaced by "diffractive optical element." As noted earlier these references were patentably distinguished during the prosecution of the parent application as failing to teach "a holographic optical element [here diffractive optical element] mounted on the housing in front of the pixel, the holographic optical element being arranged to receive the light emitted by the pixels and disperses the light in a substantially elliptical pattern directly to an observer(s) without using any light emitted modulating guide . . ." (March 24, 2003 Notice of Allowability, page 3; bracketed material added). Claims 17-23 are patentable.

This application is now believed to be in condition for allowance and such action is courteously solicited. If applicants' attorney can be of any further assistance please call the undersigned at the number provided.

Respectfully submitted,

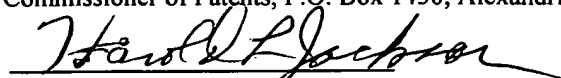
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 8, 2006.

August 8, 2006


Harold L. Jackson